

CLAIMS

1. A method of purifying reduced coenzyme Q₁₀
which comprises washing crystals and/or oil of reduced
5 coenzyme Q₁₀ with a water-soluble organic solvent or a mixed
solvent composed of a water-soluble organic solvent and water
to thereby remove a water-soluble impurity from the crystals
and/or oil of reduced coenzyme Q₁₀.
- 10 2. The method of purifying reduced coenzyme Q₁₀ according
to Claim 1,
wherein the washing of the crystals and/or oil of reduced
coenzyme Q₁₀ is carried out in a state of dispersion of the
15 crystals and/or oil of reduced coenzyme Q₁₀ in the water-soluble
organic solvent or the mixed solvent composed of the
water-soluble organic solvent and water.
- 20 3. The method of purifying reduced coenzyme Q₁₀ according
to Claim 2,
wherein the dispersion is caused in a state of forced
flowing.
- 25 4. The method of purifying reduced coenzyme Q₁₀ according
to any of Claims 1 to 3,
wherein the water-soluble organic solvent comprises at
least one species selected from among alcohols, ketones, ethers,
and nitriles.
- 30 5. The method of purifying reduced coenzyme Q₁₀ according
to Claim 4,
wherein the water-soluble organic solvent is ethanol.
- 35 6. The method of purifying reduced coenzyme Q₁₀ according
to any of Claims 1 to 5,
wherein the washing is carried out with a mixed solvent

composed of an organic solvent and water.

7. The method of purifying reduced coenzyme Q₁₀ according to Claim 6,

5 wherein the washing is carried out with a mixed solvent having a water-soluble organic solvent content of not less than 5 w/w%.

8. The method of purifying reduced coenzyme Q₁₀ according to any of Claims 1 to 7,

wherein the water-soluble impurity is a reducing agent used for converting oxidized coenzyme Q₁₀ into reduced coenzyme Q₁₀ and/or an impurity derived from a reducing agent.

9. The method of purifying reduced coenzyme Q₁₀ according to Claim 8,

15 wherein the reducing agent and/or the impurity derived from a reducing agent are/is hyposulfurous acid or a salt thereof and/or an impurity derived from hyposulfurous acid or a salt thereof.

10. The method of purifying reduced coenzyme Q₁₀ according to Claim 8,

25 wherein the reducing agent and/or the impurity derived from a reducing agent are/is ascorbic acid or a related compound thereof and/or an impurity derived from ascorbic acid or a related compound thereof.

11. The method of purifying reduced coenzyme Q₁₀ according to Claim 10,

30 wherein the impurity derived from ascorbic acid or a related compound thereof is oxalic acid.

12. The method of purifying reduced coenzyme Q₁₀ according to any of Claims 1 to 11,

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wherein the concentration of reduced coenzyme Q₁₀ during washing is not higher than 30 w/w% as expressed in terms of the weight of reduced coenzyme Q₁₀ relative to the weight of the solvent at the time of completion of the washing.

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13. The method of purifying reduced coenzyme Q₁₀ according to any of Claims 1 to 12,

wherein reduced coenzyme Q₁₀ occurs as a form of crystals.

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14. The method of purifying reduced coenzyme Q₁₀ according to Claim 13,

wherein the washing temperature is not higher than 50°C.

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15. The method of purifying reduced coenzyme Q₁₀ according to any of Claims 1 to 14,

wherein reduced coenzyme Q₁₀ occurs as a form of oil and the washing temperature is not lower than the melting temperature of reduced coenzyme Q₁₀.

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16. The method of purifying reduced coenzyme Q₁₀ according to Claim 15,

wherein the washing temperature is not lower than 40°C.

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17. The method of purifying reduced coenzyme Q₁₀ according to Claim 15 or 16,

wherein crystals of reduced coenzyme Q₁₀ is recovered by cooling the solution obtainable after impurity removal from the oil of reduced coenzyme Q₁₀.

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18. The method of purifying reduced coenzyme Q₁₀ according to Claim 15 or 16,

wherein crystals of reduced coenzyme Q₁₀ is recovered by contacting seed crystals to oil of reduced coenzyme Q₁₀ obtainable after impurity removal from said oil.

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19. The method of purifying reduced coenzyme Q₁₀ according to any of Claims 1 to 18

wherein reduced coenzyme Q₁₀ is purified in a deoxygenated atmosphere.

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